

1 ENERGY AND ENVIRONMENT CABINET

2 Department for Environmental Protection

3 Division of Water

4 (Amendment)

5 401 KAR 8:020. Public and semipublic water systems; submetering; general provisions.

6 RELATES TO: KRS 211.350-211.392, 223.160-223.220, 224.10-100, 224.10-110,
7 224.16-050, 369, 40 C.F.R. 141, 142.14, 142.15, 142.16, 142.20, 142.21, 142.40-142.65

8 STATUTORY AUTHORITY: KRS 223.200, 224.10-100(28), 224.10-110(2), 40 C.F.R.
9 141.3, 141.31, 141.75, 142.14, 142.15, 142.20, 142.21, 142.40-142.65, 42 U.S.C. 300f-300j-26

10 NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(28) and 224.10-
11 110(2) authorize the cabinet to promulgate administrative regulations for the regulation and
12 control of the purification of water for public and semipublic use. This administrative regulation
13 establishes the general provisions for regulating public and semipublic water supplies.

14 Section 1. A public or semipublic water system shall be subject to the requirements of
15 401 KAR Chapter 8, except those exempted in 40 C.F.R. 141 and 142[141.3].

16 Section 2. Submetering. (1) A property using submeters as defined by 401 KAR
17 8:010(26) shall not be considered a public water system as defined by 40 C.F.R. 141.2 and,
18 except for this administrative regulation, shall be exempt from the requirements of 401
19 KAR Chapter 8.

20 (2)(a) A property using submeters as defined by 401 KAR 8:010(26) and exempt

1 from the requirements of 401 KAR Chapter 8 shall:

2 1. Receive all of its water from a public water system and shall not change the
3 quality of water provided to customers;

4 2. Be located on property owned by a single person, entity, individual, or a co-op or
5 condominium association of property owners;

6 3. Not be regulated as a water utility by the Kentucky Public Service Commission;
7 and

8 4. Not charge tenants an amount that exceeds tenants' share of the actual amount
9 charged by the public water system to the owner or operator of a property using a
10 submetered system, based on the tenants' actual water usage in proportion to the total
11 amount of water used for the entire submetered property.

12 (b) The owner or operator of a property using a submetered system shall designate a
13 person or organization as the owner or operator of the submetered system and shall
14 provide the name, address, and phone number of the designated owner or operator upon
15 request by the cabinet.

16 (c) The owner or operator of a property using a submetered system shall certify to
17 the cabinet in writing that the:

18 1. Submetered system does not have any cross connections; and

19 2. Applicable provisions of 815 KAR 20:120 have been met.

20 (3) An advisory received by the owner or operator pursuant to Section 3(9) of this
21 administrative regulation shall be disseminated to property tenants in the manner
22 established in Section 3(10) of this administrative regulation.

23 (4) Public notices and consumer confidence reports received by the owner or

operator pursuant to 401 KAR 8:075 shall be disseminated to property tenants in the next billing period.

Section 3[2]. (1) Public and semipublic water systems. A person shall not operate or commence operation of a public or semipublic water system except in compliance with the provisions of 401 KAR Chapter 8 and 40 C.F.R. 141. A water supply system constructed prior to November 11, 1990 may be continued in use, if the operation, maintenance, bacteriological, chemical, physical, and radiological standards comply with 401 KAR Chapter 8, or the system obtains a variance or exemption from those standards in accordance with 40 C.F.R. 141.

(2)(a) A cross-connection shall be prohibited.

(b) The use of automatic devices, such as a reduced pressure zone back flow preventer and a vacuum breaker, may be approved to protect public health, in lieu of air gap separation.

(c) A combination of air gap separation and an automatic device shall be required if determined by the cabinet to be necessary due to the degree of hazard to public health.

(d) Every public water system shall determine if or where a cross-connection exists and shall immediately eliminate it.

(3) A bypass shall not be created or maintained without the prior written approval of the cabinet stating the approved circumstances for establishment of a bypass, its design, and the exact conditions for its use.

(4) An auxiliary intake shall not be used in direct connection with a public or semipublic water system except with prior written approval from the cabinet stating the emergency condition that necessitates the intake.

(5) The plumbing system serving the purification plant and auxiliary facilities shall discharge to a sewer system if available.

1 (a) If a sewer is not available, the connection shall be made to a sewage disposal facility
2 approved pursuant to KRS Chapter 211.350 through 211.392 or 224.16-050.

3 (b) There shall not be connections between the sewer system and a filter backwash, filter-
4 to-waste drain, or clearwell overflow line, unless an air gap is provided between the drain and
5 overflow line and the sanitary storm sewer or natural drainage system, so as to preclude the
6 possibility of back-up of sewage or waste into the drain or overflow line.

7 (6) The owner or operator of a public water system shall operate and maintain the
8 facilities and systems of treatment, intake, and distribution to comply with the provisions of 401
9 KAR Chapter 8 including~~[- Operation and maintenance includes]~~ effective performance;
10 preventive maintenance; operator staffing and training pursuant to 401 KAR 8:030, 11:040, and
11 11:050; establishing representative sample points that comply with the requirements of 401 KAR
12 Chapter 8; and adequate process controls for testing, including quality assurance procedures.

13 (7) Reports to the cabinet.

14 (a) The supplier of water shall provide a complete monthly operating report to the
15 cabinet, which shall be received at the Division of Water, 300 Sower Boulevard, Frankfort,
16 Kentucky 40601 not later than ten (10) days after the end of the month for which the report is
17 filed.

18 1. A completed report shall include:

19 a. Volume of water treated;

20 b. Average number of hours per day water is being treated;

21 c.~~[b]~~. Type and amount of chemicals added;

22 d.~~[e-]~~ Test results appropriate to be reported by the plant; and

23 e.~~[d-]~~ The dated original signature, or equivalent, pursuant to KRS Chapter 369, of the

owner or authorized agent.

2. A supplier of water shall submit the reports required by 40 C.F.R. 141.75(b) to the cabinet not later than ten (10) days after the end of each month the public water system serves water to the public.

3. A public water system shall report to the cabinet in accordance with 40 C.F.R. 141.31.

(b) Reports of failure to comply. A public water system shall report to the cabinet within forty-eight (48) hours, by phone or in writing, the failure to comply with a provision of 401 KAR Chapter 8, including the failure to comply with monitoring requirements.

(c) Emergency reports.

1. If a public water system experiences a line break or loss of pressure as established in 401 KAR 8:150, Section 4(2)(e), loss of disinfection, or other event that may result in contamination of the water, the public water system shall immediately report to the cabinet by calling the Division of Water in Frankfort at (502) 564-3410 or the appropriate regional field office of the Division of Water.

2. If a report required by this paragraph is made during other than normal business hours, it shall be made through the twenty-four (24) hour environmental emergency telephone number, (800) 928-2380.

(8) Records to be maintained. An owner or operator of a public water system shall keep the records established in 40 C.F.R. 141.33 on the premises or readily accessible to cabinet staff inspecting the system.

(9) Boil water and consumer advisories.

(a) Boil water advisories.

1. A public water system or semipublic water system shall issue a boil water advisory if

1 the system believes an advisory is warranted.

2 2. The cabinet may direct that a boil water advisory be issued upon:

3 a. The reception of confirmed positive bacteriological results including E. coli or fecal
4 coliform in at least one (1) sample; or

5 b. Other circumstances that warrant an advisory for the protection of public health.

6 3. The cabinet may, if circumstances warrant for the protection of public health, issue a
7 boil water advisory directly, rather than rely on a public or semipublic water system to issue the
8 advisory.

9 4. A boil water advisory shall remain in effect until the cabinet approves the lifting of the
10 advisory based on bacteriological results showing coliform bacteria are not present in the water.

11 (b) Consumer advisory.

12 1. The cabinet may issue a consumer advisory if:

13 a. Conditions within a public water system or semipublic water system indicate a possible
14 adverse health effect from consumption of the water distributed by the system; or

15 b. Other information of interest to the consumer exists.

16 2. The advisory shall notify affected persons of a required or recommended action.

17 (c) A public or semipublic water system shall:

18 1. Immediately notify the local health department that serves the area affected if a boil
19 water advisory or consumer advisory is issued.

20 a. The notification may be made by telephone, email, or fax machine for an occurrence
21 during normal business hours.

22 b. For an occurrence after normal business hours, the public or semipublic water system
23 shall notify the affected local health department in a manner agreed upon by the system and

1 affected health department; or

2 2. Develop a protocol with a local health department that describes when and how the
3 system shall notify the affected health department if the system issues a boil water advisory or
4 consumer advisory. The protocol shall address:

5 a. For which types of advisories the system shall notify the affected health department;

6 b. What procedures shall be used to notify and under what circumstances;

7 c. How soon after the occurrence the notification shall be made; and

8 d. To whom the notification shall be made, during and after business hours.

9 (10) How to issue an advisory.

10 (a) A boil water advisory or consumer advisory shall be issued through newspapers,
11 radio, television, or other media having an immediate public impact.

12 (b) As a health and safety measure, the water system shall repeat the notification during
13 the period of imminent danger at intervals that maintain public awareness.

14 (c)1. The advisory shall be readily understandable and shall include instructions for the
15 public, as well as an explanation of the steps being taken to correct the problem.

16 2. Boiling instructions shall caution to boil water to be used for consumption by boiling
17 the water for at least three (3) minutes at a rolling boil.

18 (11) Maps.

19 (a) A public or semipublic water system shall have on the premises, or readily accessible
20 to cabinet staff inspecting the system, an up-to-date map of the distribution system. The map
21 shall, at a minimum, show:

22 1. Line size;

23 2. Cutoff valves;

1 3. Fire hydrants;

2 4. Flush hydrants;

3 5. Tanks;

4 6. Booster pumps;

5 7. Chlorination stations;

6 8. Connection to emergency or alternative sources;

7 9. Wholesale customer master meters; and

8 10. Type of piping material in the distribution system and its location.

9 (b)1. If a public water system is not able to comply with the requirements of paragraph
10 (a) of this subsection, the system may petition the cabinet to modify this requirement.

11 2. The petition for modification shall state specifically what portion of the requirements
12 of paragraph (a) of this subsection is not practical and why.

13 (12) Operation and maintenance manual.

14 (a) Each public water system shall develop and keep on the premises, for operators and
15 employees of the system, an operation and maintenance manual that includes:

16 1. A detailed design of the plant;

17 2. Daily operating procedures;

18 3. A schedule of testing requirements designating who is responsible for the tests; and

19 4. Safety procedures for operation of the facility, including storage and inventory
20 requirements for materials and supplies used by the facility; and

21 5. Procedures for issuing a boiled water advisory and consumer advisory, including
22 notification to the public and local health department and consumers.

23 (b) The operation and maintenance manual shall be updated as necessary, but not less

1 than annually, and shall be available for inspection by the cabinet.

2 (c) Public water systems serving fewer than 100 people or thirty (30) service connections
3 may request that the cabinet waive the requirements of paragraphs (a) and (b) of this subsection.
4 The request shall be in writing and any waiver granted by the cabinet shall be in writing and be
5 retained by the public water system for examination by cabinet personnel.

6 (13) Flushing recommended.

7 (a) To protect public health, a distribution system may be thoroughly flushed at least
8 twice a year, usually in the spring and fall. The purpose of systematic flushing is to reduce
9 turbidity created from the scouring of accumulated sediment within the water lines.

10 1. Flushing shall start at the hydrants nearest the source of supply and proceed in an
11 outward direction to the end of each main.

12 2. Flushing shall continue at each hydrant until all traces of turbidity and color are gone.

13 3. Hydrants shall be opened and shut slowly to prevent damage from water hammer.

14 (b) In addition to the regularly scheduled flushing, the following conditions shall indicate
15 a need to flush the entire system:

16 1. Turbidity within the distribution system greater than five (5) or one (1) nephelometric
17 turbidity units, or NTU, as applicable to the system;

18 2. An inability to maintain an adequate residual of a disinfection agent in any part of the
19 system; or

20 3. A heterotrophic plate count, or HPC, in excess of 500.

21 (c) Other indicators that flushing may be necessary shall be taste and odor complaints,
22 color of water, contaminated water samples, or line repairs.

23 (14) A person shall not introduce into the water supply system a substance that may have

1 a deleterious physiological effect, or for which physiological effects may not be known.

2 (15) Certified lab analysis required. For the purpose of determining compliance with the
3 sampling requirements of 401 KAR Chapter 8, samples shall be analyzed by a laboratory
4 certified by the cabinet as prescribed in 401 KAR 8:040, except that measurements for turbidity,
5 disinfectant residuals, and other parameters specified by 40 C.F.R. 141.28 and 141.131 may be
6 performed by a certified operator or an individual under the supervision of a certified operator.

7 (16) Right of entry. The cabinet may enter an establishment, facility, or other property of
8 public and semipublic water supplies in order to determine whether the supplies have acted or
9 are acting in compliance with applicable laws or regulations that the cabinet has the authority to
10 enforce.

11 (a) Entry may include collection of water samples for laboratory analyses and inspection
12 of records, files, papers, processes, controls, and facilities required to be kept, installed, or used
13 under the provisions of 401 KAR Chapter 8.

14 (b) The cabinet or its authorized agent may cause to be tested a feature of a public water
15 system, including its raw water source, to determine compliance with applicable legal
16 requirements.

17 (17) Recommended practices for water supply reservoirs to be used for drinking water.
18 The following practices may be employed by water systems that have a lake primarily used as a
19 source of raw drinking water.

20 (a) Prohibition of swimming, water skiing, and other contact sports;

21 (b) Prohibition of large motor-driven craft or any craft with toilets;

22 (c) A requirement that an area at least 100 feet wide from the upper pool elevation be
23 kept clear of all sources of potential contamination such as septic tanks, drain fields, livestock,

1 and barns;

2 (d) Prohibition of effluent from sewage treatment plants being discharged into the lake;

3 (e) Picnicking may be permitted around the lake if plans for the development of a picnic
4 area meet regulatory requirements of the cabinet; and

5 (f) Implementation of a nonpoint source pollution control plan.

6 (18) Water treatment chemicals and system components. Chemical additives and
7 protective materials, such as paints and linings, may be used by a water system if they meet the
8 requirements established in the "Recommended Standards for Water Works", 2012 Edition,
9 A Report of the Water Supply Committee of the Great Lakes-Upper Mississippi River Board
10 of State Public Health and Environmental Managers' Recommended Standards for Water Works.

11 (19) Disposal of chlorinated water. Chlorinated water resulting from disinfection of
12 treatment facilities and, new, repaired, or extended distribution systems shall be disposed in a
13 manner that shall not violate 401 KAR 10:03 F.

14 (20) Water loading stations. A public water system that provides water loading stations
15 for the purpose of providing water to water hauling trucks or other bulk water devices shall
16 construct the stations to conform to the standards in the Great Lakes-Upper Mississippi River
17 Board of State Public Health and Environmental Managers' Recommended Standards for Water
18 Works.

19 Section 4[3]. The cabinet shall maintain records and submit reports as established in 40
20 C.F.R. 142.14, 142.15, and 142.16(f).

21 Section 5[4]. A public water system may receive a variance or exemption from some
22 provisions of 401 KAR Chapter 8 only in accordance with 40 C.F.R. 141.4.

23 Section 6[5]. A public water system may use noncentralized treatment devices only in

1 accordance with 40 C.F.R. 141.100 or bottled water only in accordance with 40 C.F.R.[141,
2 Sections] 141.101.

3 Section 7[6]. Incorporation by Reference. (1) "Recommended Standards for Water
4 Works, 2012 Edition [2003]," A Report of the Water Supply Committee of the Great Lakes-
5 Upper Mississippi River Board of State Public Health and Environmental Managers, is
6 incorporated by reference.

7 (2) This material may be inspected, copied, or obtained, subject to applicable copyright
8 law, at Division of Water, 300 Sower Boulevard, Frankfort, Kentucky 40601, Monday through
9 Friday, 8 a.m. to 4:30 p.m. This material is also available on the division's Web site at
10 <http://water.ky.gov>.

11 (3) This material may also be obtained at
12 <http://10statesstandards.com/waterrev2012.pdf>